



FIG. 3A

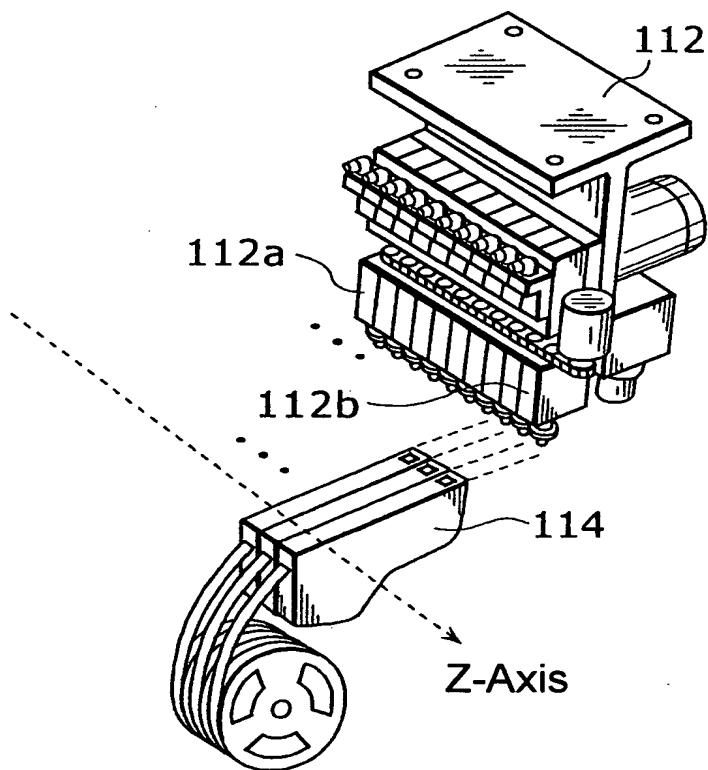


FIG. 3B

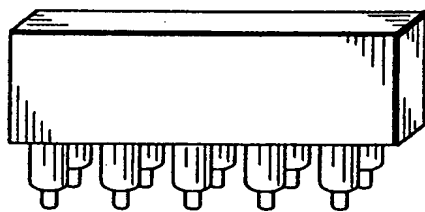


FIG. 11

Nozzle interchange time N (nozzle set number $n=N+1$)	Task number X_N	Evaluated value S
N=0	X_0	S_0
N=1	X_1	S_1
N=2	X_2	S_2
\vdots	\vdots	\vdots

Evaluation function:
 $S = X_N + h \cdot N$

(h: a coefficient for converting a
time taken by interchanging
nozzles per time into a task
number)

FIG. 25A

Nozzle set

Nozzle set	1	2	3	4
1	S(6)	S(6)	S(6)	S(6)
2	S(1)	S(1)	M(1)	M(1)
3	M(1)	M(1)	M(1)	L(1)

FIG. 25B

Nozzle pattern 1 (Number of nozzles to be interchanged: 4)

Nozzle set	Task No.	H1	H2	H3	H4
1	1~6	Ⓢ	Ⓢ	Ⓢ	Ⓢ
2	7	Ⓢ	Ⓢ	Ⓜ	Ⓜ
3	8	Ⓜ	Ⓛ	Ⓜ	Ⓜ

FIG. 25C

Nozzle pattern 2 (Number of nozzles to be interchanged: 6)

Nozzle set	Task No.	H1	H2	H3	H4
1	1~6	Ⓢ	Ⓢ	Ⓢ	Ⓢ
3	7	Ⓜ	Ⓜ	Ⓜ	Ⓛ
2	8	Ⓜ	Ⓜ	Ⓢ	Ⓢ

FIG. 25D

Nozzle pattern 3 (Number of nozzles to be interchanged: 6)

Nozzle set	Task No.	H1	H2	H3	H4
2	1	Ⓢ	Ⓢ	Ⓜ	Ⓜ
1	2~7	Ⓢ	Ⓢ	Ⓢ	Ⓢ
3	8	Ⓜ	Ⓜ	Ⓜ	Ⓛ

FIG. 49

Component type	0603		1005			Others
	R	C	R	C	C	
Number of components	10	12	20	11	32	18
Nozzle type	SX	SX	SA	SA	S	M
Nozzle source	5		5		3	2
PG	1	2	3	4	5	
Stage	R		L			

(a)



1005C SA	Others S&M
0603R SX	
0603C SX	
1005R SA	

stage L stage R

(b)